UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,735	09/29/2003	Sung-Chul Shin	03-608	6373

34704 7590 06/16/2006

BACHMAN & LAPOINTE, P.C.
900 CHAPEL STREET
SUITE 1201
NEW HAVEN, CT 06510

EXAMINER	
RICKMAN, HOLLY C	
ART UNIT	**PAPER NUMBER**
1773	

DATE MAILED: 06/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/675,735	SHIN ET AL.	
	Examiner	Art Unit	
	Holly Rickman	1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 March 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto et al. (US 5900323) in view of Chang et al. (US 5897783).

Okamoto et al. disclose a magnetic recording medium having a substrate, a Cr based underlayer, a CoCrPt magnetic layer and a protective overcoat thereon formed from a material such as C. The reference teaches that the CoCrPt layer contains Cr in an amount of 12-20 at% and Pt in an amount of 4-18 at% (col. 4, lines 3-6). It would have been obvious to one of ordinary skill in the art to choose optimal amount of each of the elements in the magnetic layer from within the claimed ranges in view of the apparent equivalence of each of the values within the cited ranges.

The reference fails to teach the use of Ti in the underlayer. Instead, Okamoto et al. teach the use of a Cr based underlayer.

Chang et al. teach the functional equivalence of several Cr materials for use as an underlayer beneath a CoCrPt magnetic layer. Specifically, the reference teaches the equivalence of Cr and CrTi (see col, 11, lines 37-38). It would have been obvious to one of ordinary skill in the art at the time of invention to substitute CrTi for the Cr layer taught by Okamoto et al.

Substitution of equivalents requires no express motivation as long as the prior art recognizes the equivalency. *In re Fount* 213 USPQ 532 (CCPA 1982); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *Grover Tank & Mfg. Co. Inc V. Linde Air Products Co.* 85 USPQ 328 (USSC 1950).

With regard to the newly added limitation directed to the use of a "CoCr alloy target having a Pt chip positioned thereon", the examiner takes the position that this is a process limitation in an article claim. It does not materially distinguish the present claims over the applied prior art. It has been held that even though product-by-process claims are limited and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

There is no evidence of record to suggest that the claimed method limitation results in a product that is patentably distinct from that shown by the prior art.

3. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto et al. (US 5900323) in view of Chang et al. (US 5879783) and further in view of Ishikawa et al. (US 5605733).

Okamoto in view of Chang et al. teach all of the limitations of the claims as set forth above, except for the use of a Si_3N_4 protective layer on the CoCrPt magnetic layer. Instead, Okamoto et al. teaches the use of a protective layers formed from a material such as C.

Ishikawa et al. disclose the use of a C or Si_3N_4 for use as protective layers on top of Co alloy magnetic layers (col. 22, lines 41-44).

It would have been obvious to one of ordinary skill in the art at the time of invention to substitute a Si3N4 protective layer for the C protective layer taught by Okamoto et al. in view of the art recognized functional equivalence of the two materials. Substitution of equivalents requires no express motivation as long as the prior art recognizes the equivalency. *In re Fount* 213 USPQ 532 (CCPA 1982); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *Grover Tank & Mfg. Co. Inc V. Linde Air Products Co.* 85 USPQ 328 (USSC 1950).

With regard to the newly added limitation directed to the use of a "CoCr alloy target having a Pt chip positioned thereon", the examiner takes the position that this is a process limitation in an article claim. It does not materially distinguish the present claims over the applied prior art. It has been held that even though product-by-process claims are limited and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

There is no evidence of record to suggest that the claimed method limitation results in a product that is patentably distinct from that shown by the prior art.

Response to Arguments

4. Applicant's arguments filed 3/29/06 have been fully considered but they are not persuasive.

Applicant argues that the Co:Cr ratio of the present claims is fixed as 82:18 whereas the prior art to Okamoto et al. is not.

This argument is not persuasive in overcoming the rejections of record because Okamoto et al. suggests ranges for Co and Cr which encompass the claimed ratios of 82:18 Co:Cr. Thus, it would have been obvious to arrive at the claimed invention for the reasons set forth in the rejections above.

Furthermore, Applicant notes that the claims have been amended to more particularly point out that the aforementioned CoCr-containing magnetic layer is formed by using a "CoCr alloy target having a Pt chip positioned thereon." As noted above, this is a process limitation in an article claim. There is no evidence of record to suggest that the claimed method step results in a materially different product from that taught by the prior art.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Holly Rickman whose telephone number is (571) 272-1514. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Holly Rickman
Primary Examiner
Art Unit 1773